I. AMENDMENTS TO THE CLAIMS

Please find below a listing of claims that will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (Currently amended) A transmission medium conveying a communications signal comprising:

recurrent wrapper bursts, each wrapper burst comprising one or more wrapper symbols, each wrapper symbol ~~corresponding~~ comprising a multi-bit pattern which corresponds to an information bit;

wherein each wrapper symbol is characterized by a signal level transition pattern, said signal level transition pattern being either a first pattern or a second pattern depending on the logic value of the respective information bit; and

wherein the first and second patterns each have a distinct average signal level and are each characterized by at least one signal level transition.

2. (Previously presented) A transmission medium as claimed in claim 1, wherein the first and second patterns each have a plurality of signal level transitions which are sufficiently densely spaced in time to enable far-end receiver synchronization.

3. (Previously presented) A transmission medium as claimed in claim 1, wherein the first and second patterns are complementary.

4. (Previously presented) A transmission medium as claimed in claim 1, wherein the first and second patterns each have at least one rising edge and at least one falling edge.

5. (Previously presented) A transmission medium as claimed in claim 1, wherein the first pattern has multiple substantially evenly distributed pulses.

6. (Previously presented) A transmission medium as claimed in claim 5, wherein the second pattern has multiple substantially evenly distributed recesses.

7. (Currently amended) A transmission medium as claimed in claim 1, wherein the communications signal further comprises a payload segment between ~~each~~ adjacent ~~pair of~~ wrapper bursts, wherein each wrapper burst has a duration substantially less than the duration of either adjacent payload segment.

8. (Previously presented) A transmission medium as claimed in claim 1, wherein the communications signal is an optical signal.

9. (Previously presented) A transmission medium as claimed in claim 1, wherein the communications signal is an electrical signal.

10. (Currently amended) A transmission medium conveying a communications signal comprising:

alternating payload and wrapper segments;

wherein each wrapper segment comprises a contiguity of signal level sequences;

wherein each signal level sequence is a multi-bit symbol characterized by an average signal level indicative of the binary value of a bit of an information bit stream; and

wherein each signal level sequence comprises at least one intermediate signal level transition.

11. (Previously presented) A transmission medium as claimed in claim 10, wherein the payload and wrapper segments are binary-valued.

12. (Previously presented) A transmission medium as claimed in claim 10, wherein each signal level sequence is either a first pattern or a second pattern, depending on the binary value of the respective bit of the information bit stream.

13. (Previously presented) A transmission medium as claimed in claim 12, wherein the first and second patterns are complementary.

14. (Previously presented) A transmission medium as claimed in claim 12, wherein each of the first and second patterns has at least one rising edge and at least one falling edge.

15. (Previously presented) A transmission medium as claimed in claim 12, wherein the first pattern has multiple substantially evenly distributed pulses.

16. (Previously presented) A transmission medium as claimed in claim 15, wherein the second pattern has multiple substantially evenly distributed recesses.

17. (Previously presented) A transmission medium as claimed in claim 10, wherein each wrapper segment has a duration substantially less than the duration of any adjacent payload segment.

18. (Previously presented) A transmission medium as claimed in claim 10, wherein the communications signal is an optical signal.

19. (Previously presented) A transmission medium as claimed in claim 10, wherein the communications signal is an electrical signal.

20. (Previously presented) A transmission medium conveying a communications signal comprising:

alternating payload and wrapper segments, each wrapper segment consisting of a concatenation of binary signal level patterns;

wherein each binary signal level pattern is associated with a bit of an information bit stream;

wherein each binary signal level pattern is either a first pattern or a second pattern, the first and second patterns being associated with respective ones of two possible logic values for a bit in the information bit stream;

wherein the first pattern consists mostly of a low signal level and partly of a high signal level; and

wherein the second pattern consists mostly of the high signal level and partly of the low signal level.

21. (Previously presented) A transmission medium conveying a communications signal comprising:

alternating payload and wrapper segments, each wrapper segment comprising a concatenation of pulse groups, each pulse group encoding a bit of an information bit stream;

wherein the pulse sequence which encodes one of two possible logic values for a bit in the overhead bit stream consists of at least one pulse and has a pulse density of strictly less than 50 per cent; and

wherein the pulse sequence which encodes the other possible logic value for a bit in the information bit stream consists of not all pulses and has a pulse density of strictly more than 50 per cent.

22. (Currently Amended) A method of extracting an overhead bit stream from a composite optical signal consisting of segments of a high-speed data stream alternating with segments of a digital wrapper, each digital wrapper segment containing a plurality of wrapper symbols each of which comprises a multi-bit

sequence which has an average signal level indicative of the logical value of a bit in the overhead bit stream, the method comprising the steps of:

converting the composite optical signal into an electrical signal having an electrical bandwidth that is substantially less than the bandwidth of the high-speed data stream;

locating the position of each wrapper segment in the low-bandwidth electrical signal; and

detecting individual bits of the overhead bit stream from the average level of the low-bandwidth electrical signal during the located wrapper segments.

23. (Original) A method as claimed in claim 22, further comprising:

buffering the bits of the overhead bit stream following detection thereof and outputting said bits periodically at the bit rate of the overhead bit stream.

24. (Original) A method as claimed in claim 22, further comprising:

verifying the integrity of a connection map being applied by a switch as a function of the bits in the overhead bit stream.

25. (Original) A method as claimed in claim 22, wherein the step of detecting comprises:

for each wrapper symbol interval in each located wrapper segment, measuring an average signal level of the low-bandwidth electrical signal during that wrapper symbol interval;

comparing the measured average signal level to a threshold; and

if the measured average signal level is above the threshold, concluding that the corresponding bit in the overhead bit stream is a logic "one" and if the measured average signal level is below the threshold, concluding that the corresponding bit in the overhead bit stream is a logic "zero".

26. (Original) A method as claimed in claim 22, wherein the step of detecting comprises:

for each wrapper symbol interval in each located wrapper segment, measuring an average signal level of the low-bandwidth electrical signal during that wrapper symbol interval;

if the measured average signal level is above a first threshold, concluding that the corresponding bit in the overhead bit stream is a logic "one" and if the measured average signal level is below a second threshold less than the first threshold, concluding that the corresponding bit in the overhead bit stream is a logic "zero".

27. (Original) A method as claimed in claim 26, wherein the first threshold is [illegible]